

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Bhashyam Ramesh, et al.	§	Group Art Unit: 2166
	§	
Serial No.: 10/751,016	§	
	§	Examiner: Saeed, Usmaan
Filing Date: December 31, 2003	§	
	§	
Title: Statistical Representation of Skewed Data	§	Attorney. Docket No.: 11303

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DATE OF SUBMISSION: **JULY 18, 2007**
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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reasons stated on the attached sheets.

Respectfully submitted,

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Date: July 18, 2007

Reasons for Review

Claims 1-42 are pending and stand rejected. A Final Office Action issued on March 22, 2007. Applicant responded on May 22, 2007. An Advisory Action issued on June 13, 2007.

1. The combination of Chiang and Campos does not teach or suggest determining the average height of the histogram buckets, as required by claims 3, 17, and 31.

The Final Office Action rejected claims 3-5, 17-19, and 31-33 under 35 USC 103(a) as being obvious over Chiang (United States Patent No. 6,477,523) in view of Campos (United States Publication No. 2003/0212702).

Chiang does not teach or suggest determining an average height of the histogram buckets, as required by claims 3, 17, and 31. The average height of the histogram buckets is computed to determine where a reclassification threshold should be set. See, e.g., element (b) of claim 3. Each value that exceeds the reclassification threshold is then represented in a high-bias bucket. See claims 3, 17, and 31. The use of the term “reclassification” indicates that this process is performed after values have already been classified to a bucket.

In contrast, Chiang’s process is performed before classification begins. Chiang computes a Global Interval Size, which is “the average number of rows to be fitted in one interval. In one embodiment, this is set to be the total number of rows in the table divided by 100.” Thus, in Chiang, the computation of the average number of rows to be fitted in one interval occurs before the values are classified to buckets. Such a computation cannot be used to determine a reclassification threshold.

The Advisory Action argues that Campos teaches a reclassification threshold in that “when the number of entries assigned to a node reaches a pre-specified threshold the node is split and its buffer entries [are] divided among its child nodes (Campos Paragraph 0052).” Advisory Action at 2. The Advisory Action does not argue that Campos teaches or suggests adjusting the pre-specified threshold, much less adjusting the reclassification based on the average height of the histogram buckets, as required by claims 3, 17, and 31.

Therefore, the combination of Chiang and Campos does not teach or suggest determining the average height of the histogram buckets, and, based on that computation, determining a reclassification threshold, as required by claims 3, 17, and 31. Applicant respectfully requests that the rejections of claims 3, 17, and 31, and their respective dependent claims (i.e., claims 4-5, 18-19, and 32-33) be withdrawn.

2. The Advisory Action did not respond to Applicant’s arguments regarding claims 5, 19 and 33.

The Final Office Action rejected claims 5, 19, and 33 under 35 USC 103(a) as being obvious over Chiang in view of Campos.

In Applicant’s May 22, 2007 response, Applicant argued that Chiang does not teach or

suggest repeating the steps of claims 3, 17, and 31, respectively, until no value exceeds the reclassification threshold as required by claims 5, 19, and 33. Chiang makes one pass through the records and does not go back and reclassify the records. Chiang, col. 7, lines 7-31. Applicant respectfully requests that the rejection of claims 5, 19, and 33 be withdrawn.

The Advisory Action did not respond to Applicant's argument. Accordingly, Applicant respectfully requests that the rejections of claims 5, 19 and 33 be withdrawn.

3. The combination of Chiang and Campos does not teach either of the conditional statements of claims 6, 20, and 34.

The Final Office Action rejected claims 6-8, 20-22, and 34-36 under 35 USC 103(a) as being obvious over Chiang in view of Campos.

The combination of Chiang and Campos does not teach or suggest determining an average height of the histogram buckets, which is then used to determine a reclassification threshold, as required by claims 6, 20, and 34. The reasoning for this argument is described above with respect to claims 3, 17, and 31.

Further, the Advisory Action argued that the cited references need satisfy only one of the conditional statements in claims 6, 20, and 34 to sustain the rejection. Applicant respectfully disagrees. Each of the two conditional statements in claims 6, 20, and 34 has a different condition that must be met. To sustain the rejection, the cited references must describe both conditions and the steps that are taken when the conditions are satisfied. In this case, the references do not teach or suggest either of the two conditional statements.

With respect to the first conditional statement, Chiang does not teach or suggest for each value that exceeds the reclassification threshold, representing the value in a high-bias bucket if all of the high-bias buckets are not full, as required by claims 6, 20, and 34. Chiang describes allocating rows to loner categories, Chiang, col. 7, lines 14-31, but does not teach or suggest determining if the high-bias buckets are not full, as required by claims 6, 20, and 34. The Advisory Action does not argue that Campos provides this element.

With respect to the second conditional statement, neither Chiang nor Campos teach or suggest determining if the number of high-bias buckets is less than a fixed number of high-bias buckets, as required by claims 6, 20, and 34. While Chiang describes having a maximum number of loners that is used in an equation to determine if a row is a loner, Chiang, col. 7, lines 21-28, Chiang does not describe using that maximum number to determine if the number of high-bias buckets is less than a fixed number of high-bias buckets. The Advisory Action does not argue that Campos describes having a fixed number of high-bias buckets.

The Advisory Action argues that Campos teaches “‘else, if the number of high-bias buckets is less than a fixed number of high-bias buckets’ as when the number of entries assigned to a node reaches a pre-specified threshold the node is split and its buffer entries [are] divided among its child nodes (Campos Paragraph 0052).” However, this excerpt from Campos teaches nothing of the sort. This excerpt from Campos does not teach determining if the number of high-

bias buckets has reached a fixed number; it teaches determining if the number of elements in a node as reached a pre-specified threshold and then splitting the elements among child nodes. These are two completely different things.

The Advisory Action also argues that Chiang “discloses ‘else, if the number of high-bias buckets is less than a fixed number of high-bias buckets’ as the histogram stores only a specified number of intervals (Chiang Col 7, Lines 53-55).” The cited section of Chiang discloses “[a]fter processing by the second collection step, the compressed histogram stores only a specified number of Interval Records.” In Chiang, however, Interval Records exist for all buckets, not just high-bias buckets. Chiang, col. 3, lines 19-23. Therefore, Chiang does not teach determining if the number of high-bias buckets is less than a fixed number of high-bias buckets, as required by claims 6, 20, and 34.

Thus, for the above reasons, claims 6, 20, and 34 are not obvious over Chiang in view of Campos. Similarly, claims 7-8, 21-22, and 35-36, which depend from claims 6, 20, and 34, respectively, are not obvious over Chiang in view of Campos. Applicant respectfully requests that the rejections of claims 6-8, 20-22, and 34-36 be withdrawn.

4. The combination of Chiang and Campos does not teach or suggest determining a remaining number of buckets equal to a total number of buckets minus the number of high bias buckets used.

The Final Office Action rejected claims 9-13, 23-27, and 37-41 under 35 USC 103(a) as being obvious over Chiang in view of Campos.

Applicant respectfully disagrees. Neither Chiang nor Campos teach or suggest determining a remaining number of buckets equal to a total number of buckets minus the number of high-bias buckets used, as required by claims 9, 23, and 37. The Advisory Action recites two portions of Chiang in which Chiang describes (a) identifying rows or sets of rows as Loners, Chiang, col. 7, lines 14-18, and (b) storing only a specified number of Interval Records, col. 7, lines 53-55, without explaining how the two portions combine or even relate to each other. Applicant contends that the two portions do not relate to each other and cannot be combined to provide the limitation at issue. Thus, the cited portions of Chiang do not teach or disclose determining the remaining number of buckets equal to a total number of buckets minus the number of high-bias buckets used, as required by claims 9, 23, and 37.

For the above reasons, claims 9, 23, and 37 are not obvious over Chiang in view of Campos. Similarly, claims 10-13, 24-27, and 38-41, which depend from claims 9, 23, and 37 are not obvious over Chiang in view of Campos for at least the same reasons. Applicant respectfully requests that the rejection of claims 9-13, 23-27, and 37-41 be withdrawn.

5. Mozes does not teach setting a minimum percentage of rows to 1/FB%.

The Office Action rejected claims 10, 24, and 38 under 35 USC 103(a) as being obvious over Chiang in view of Campos further in view of Mozes (United States Patent No. 6,691,099).

Applicant respectfully disagrees. The cited portion of Mozes merely describes a minimum value for the number of rows in a table and does not describe setting the minimum percentage of rows to $1/FB\%$, where F is equal to a number of high-bias values that each high-bias bucket can contain and B is equal to the total number of buckets, as required by claims 10, 24, and 28. Similarly, Chiang and Campos do not describe this process. Applicant respectfully requests that the rejections of claims 10, 24, and 38 be withdrawn.

6. Mozes does not teach setting a minimum percentage of rows to $V(FB-I)/FB\%$

The Office Action rejected claims 11, 25, and 39 under 35 USC 103(a) as being obvious over Chiang in view of Campos further in view of Mozes (United States Patent No. 6,691,099).

Applicant respectfully disagrees. The cited portion of Mozes merely describes a minimum value for the number of rows in a table and does not describe setting the minimum percentage of rows to $V(FB-I)/FB\%$, where F is equal to a number of high-bias values that each high-bias bucket can contain, B is equal to the total number of buckets, V is equal to the minimum percentage of rows, and I is equal to the number of values represented by the high-bias buckets. Applicant respectfully requests that the rejections of claims 11, 25, and 29 be withdrawn.

7. The cited references do not teach or suggest repeating the specific steps required by claims 13, 27, and 41

The Office Action rejected claims 13, 27, and 41 under 35 USC 103(a) as being obvious over Chiang in view of Campos further in view of Mozes (United States Patent No. 6,691,099).

Applicant respectfully disagrees. While Mozes teaches repeating Mozes' steps 202 through 204, those steps are not the same as those required in claims 13, 27, and 41 depend and the respective claims from which those claims depend. Further, neither Chiang nor Campos teaches or suggests the repetition of steps required by claims 13, 27, and 31. Accordingly, Applicant respectfully requests that the rejection of claims 13, 27, and 31 be withdrawn.